

WHAT IS CLAIMED IS:

1. A semiconductor laser device comprising:
a substrate having a plurality of recessed portions in its principal surface, and
5 a plurality of semiconductor laser chips each disposed in one of the recessed portions,
wherein the semiconductor laser chips are a facet-emitting type in which a laser beam is emitted from a facet, and
the recessed portions are formed so that the respective emission directions of the
10 semiconductor laser chips are aligned with each other.

2. The device of Claim 1, wherein two of the semiconductor laser chips have mutually different emission wavelengths.

15 3. The device of Claim 1, wherein two of the semiconductor laser chips have mutually different optical outputs.

4. The device of Claim 1, wherein a notch, through which a laser-emitting portion of an associated one of the semiconductor laser chips is exposed, is formed in the substrate.
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5. The device of Claim 4, wherein at least two said notches are formed.

6. The device of Claim 4, wherein the notch has the shape of a depression and the lower end of the notch reaches the bottom face of an associated one of the recessed
25 portions.

7. The device of Claim 1, wherein the front facet side of each said semiconductor laser chip differs in shape from the rear facet side thereof that faces the front facet side.

5 8. The device of Claim 1, wherein in each said semiconductor laser chip, optical output from its front facet is equal to optical output from its rear facet.

9. The device of Claim 1, wherein a recess electrode is formed on the bottom face of each said recessed portion,

10 a chip electrode is formed on a face of each said semiconductor laser chip which faces the bottom face of the associated one of the recessed portions, and

each said semiconductor laser chip is electrically connected to the associated recess electrode via the chip electrode.

15 10. The device of Claim 1, wherein the semiconductor laser chips differ from each other in plan configuration, and

the plan configurations of the recessed portions vary according to the associated semiconductor laser chips.

20 11. The device of Claim 10, wherein the plan configurations of the semiconductor laser chips vary in accordance with their emission wavelengths.

12. The device of Claim 10, wherein the semiconductor laser chips vary in shape in accordance with their optical outputs.

13. A semiconductor laser device comprising:

a substrate having a plurality of recessed portions in its principal surface, and

a plurality of semiconductor laser chips each disposed in one of the recessed portions,

5 wherein a chip electrode is formed on a face of each said semiconductor laser chip which faces the bottom face of the associated one of the recessed portions, and

a recess electrode is formed on the bottom face of each said recessed portion in such a manner that an end portion of the recess electrode extends beyond the principal surface of the substrate.

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14. The device of Claim 13, wherein the recess electrode is so formed as to be shared by the semiconductor laser chips.

15. A method for fabricating a semiconductor laser device, comprising the steps

15 of:

(a) forming a plurality of recessed portions in the principal surface of a substrate, and

(b) spreading a plurality of semiconductor laser elements in the form of chips in a liquid and pouring the semiconductor-laser-element-spread liquid over the principal
20 surface of the substrate, thereby allowing the semiconductor laser elements to be disposed into the respective recessed portions in a self-aligned manner,

wherein the semiconductor laser elements are a facet-emitting type in which a laser beam is emitted from a facet, and

in the step (a), the recessed portions are formed so that the respective emission
25 directions of the semiconductor laser elements are aligned with each other.

16. The method of Claim 15, wherein the step (a) includes the step of forming in the substrate a notch through which a laser-emitting portion of an associated one of the semiconductor laser elements is exposed.

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17. The method of Claim 15, wherein in the step (a), the recessed portions are so formed as to vary in plan configuration in accordance with the shapes of the associated semiconductor laser elements.

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